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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/561,369

02/12/2007

Richard James See

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8791

7590

04/21/2009

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EXAMINER

TRIEU, THAI BA

ART UNIT

PAPER NUMBER

3748

MAIL DATE

DELIVERY MODE

04/21/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/561,369	Applicant(s) SEE, RICHARD JAMES	
	Examiner THAI BA TRIEU	Art Unit 3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-10, 17, 18 and 20 is/are allowed.
- 6) ☒ Claim(s) 11-16 and 19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 February 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>02/12/2009</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is in response to the Amendment filed on February 12, 2009. Applicant's cooperation in correcting the informalities in the drawing is appreciated. Applicant's cooperation in amending the claims to overcome the claim objections relating to the improper form of a multiple dependent claim as well as indefinite claim language is also appreciated.

Drawings

The Amendment to Drawings filed on February 12, 2009 has been approved.

Claim Suggestions

Applicant is suggested to revise the claimed limitations by following:

1. In claim 1, lines 15 -17 should be revised as:

-- wherein, [[in use, fluids]] **in an engine operation/ during a cycle of an engine operation, fluid** in a working portion **is** undergo compression, combustion and expansion as a closed volume, the closed volume being defined during the compression, combustion and expansion by an adjacent pair of second rotation elements. —

Note that applicant should use either **in an engine operation** or **during a cycle of an engine operation.**

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2. In claim 19, lines 1-4 should be revised as:

-- The engine of claim 1, wherein, [[in use an amount of projection]]
in the engine operation/ during the cycle of the engine operation, the plurality of said projecting portions into the cavity of each of the second rotation elements increases to a first local maximum, then decreases to a local minimum greater than zero, then increases to a second local maximum, then decreases to zero.—

3. In claim 20, lines 1-3 should be revised as:

-- The engine of claim 1, wherein, [[in use, fluids]] **in the engine operation/ during the cycle of the engine operation, fluid** in a working portion **is** undergo the compression, combustion and expansion within one rotation of the first rotation element. --

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 11; Claim 12 and its dependent claims 13-16; and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically,

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1. In claim 11, line 2, the recitation of “at least one passage for fluid inlet and/or fluid outlet” renders the claim indefinite, since it is not clear that applicant wants to disclose which of the following options:

at least one passage for fluid inlet; or

at least one passage for fluid outlet; or

at least one passage for fluid inlet and fluid outlet.

If there is at least one passage for fluid inlet and fluid outlet is to be claimed, the engine of the instant application uses one/at least one passage to simultaneously perform two functions of delivering air/air-to-fuel mixture or discharging the exhaust gas. Is it possible for one/at least one to do two functions at the same time?

Applicant is required to identify which passage for fluid inlet; which passage for the fluid outlet or to revise claimed features.

2. In claim 12, lines 2-3, the recitation of “each valve being operative as fluid inlet or fluid outlet only when adjacent to a working portion of the cavity” renders the claim indefinite, since it is not clear that under which condition of the engine operation each valve is operative to function as a fluid inlet and which condition of the engine operation each valve is operative to function as a fluid outlet? Which component is to be adjacent to a working portion of the cavity? Applicant is required to clarify or to revise the claimed limitations.

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3. In claim 14, the recitation of “each of the at least one valve being operative to vary the flow rate of a fluid into a working portion of the cavity, to vary the pressure of fluid within a working portion of the cavity, or to vary a compression and/or expansion ratio of the engine” renders the claim indefinite, since it is not clear that:

Under which condition of the engine operation each of the at least one valve is operative to vary only a compression ratio?

Under which condition of the engine operation each of the at least one valve is operative to vary only an expansion ratio?

Under which condition of the engine operation each of the at least one valve is operative to vary a compression ratio and an expansion ratio?
In other words, each of the at least one valve simultaneously varies a compression ratio and an expansion ratio of the engine.

Applicant is required to clarify the condition(s) or to revise the claimed limitation.

4. In claim 19, line 2, “the recitation of “an amount of projection into the cavity” renders the claim indefinite, since it is not clear that which component in the engine is considered as projection? Is ***“an amount of projection”*** in claim 19 different from ***“a plurality of projecting portions”*** being claimed in claim 1?

Applicant is required to identify an amount of projection.

If there is no difference between ***“projection”*** and ***“projection portions”***, applicant is required to elect either ***“projection”*** or ***“projection portions”*** to

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revise the claims to maintain **consistency** of claims; as well as to avoid **the double recitation** of claimed limitation.

Allowable Subject Matter

Claims 1-10, 17-18 and 20 are allowed.

Claims 11-16 and 19 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Response to Arguments

Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Prior Art

The IDS (PTO-1449) filed on February 12, 2009 has been considered. An initialized copy is attached hereto.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to THAI BA TRIEU whose telephone number is (571)272-4867. The examiner can normally be reached on Monday - Thursday (6:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on (571) 272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TTB
April 20, 2009

/Thai-Ba Trieu/
Primary Examiner
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